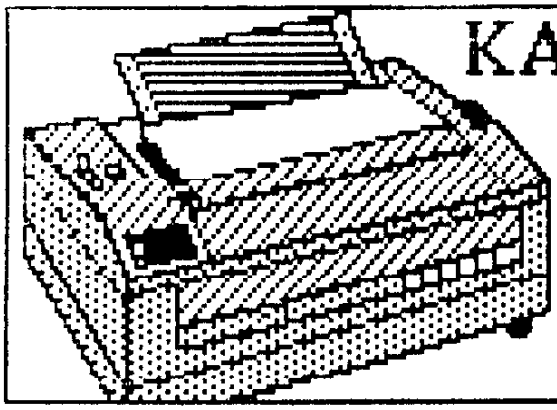

KAWARTHA
99ers
P.O. BOX 373
PETERBOROUGH
ONT. CANADA

VOL. 5 NO. 4

EDITOR'S EDICTS

BI PHIL TOWNSEND

THE INUVIK 99'ERS

Our loss is Inuvik's gain! Mike McVeigh will be leaving our beautiful Kawartha Lakes area for the "cooler" climate some several hundred miles north of the Artic Circle. Mike will be teaching in the college there and hopefully might even be able to start up a computer interest group (if there isn't already one). If nothing else, Mike will be able to impress the Northern population with his 99/4A and its capabilities. Mike, your abilities, hard work, interest and friendship will be sorely missed by all of us in the group We wish you well in your new adventure and hope that you will be back with us in the not too distant future. Hopefully we will still be able to count on you for interesting articles and programs for the newsletter from time to time (hint). Mike's departure as of Sept. 19th. leaves the position of Publicity Coordinator to be filled, the membership will have to look after this at the Sept. meeting.

Speaking of the upcoming meeting, please be prepared to provide the following:
-consoles & wiring; Janet, Bob Mathews, Karen Wilson and anyone else who wishes.
-cassette recorder & wiring; Don Roberts, John Baal
-Jet Pack (tm); Lindsay
-PE box; Mike Dunn
-Power bars & bits & pieces; Phil
-Printers, axioms & cabling; Steve, Glen
Please bring Ex Basic modules if you have them.

This Newsletter is a combinaion of a summer and September edition, many thanks to the following groups' newsletters for the reprinted articles; L.A. 99'ers, Southwest 99'ers, St. Louis 99'ers; Front Range 99'ers, and the Boston Computer Society. Several other groups' and individual's articles are recognized within the body of the newsletter. I hope the many groups that we share newsletters with will benefit from the reprinting of these articles as will our own members.

Under discussion at the September meeting will be the date and location for our next public demonstration and membership drive. Hopefully Mike Dunn will demonstrate his growing prowess with The Companion wordprocessor and Glenn will set us all astir with a demo of the banner maker portion of CSGD. It sounds like an interesting and busy meeting so plan to attend.

P.S. the Editor of this newsletter could sure use some help from the members in the way of getting original technical articles, product reviews, personal computer experiences etc., all submissions would be appreciated.

KAWARTHA 99ers USER GROUP

FOR USERS OF THE TEXAS INSTRUMENT 99/4A HOME COMPUTER

P.O. BOX 373
PETERBOROUGH, ONT.
CANADA
K9J 6Z3

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Meetings are held on the first Wednesday of every month at the Queen Alexandra Community Centre. Meetings begin at 7:00 p.m.

Membership fees are collected on an annual basis of $18.00 per annum or a portion thereof at the rate of $1.50 per month. Memberships are on an individual basis and run annually from the first Wednesday in March.

The opinions expressed in this newsletter are those of the authors and not necessarily of the KAWARTHA 99ers USER GROUP.

Advertisements and contributing articles for this newsletter may be given to the newsletter editor or mailed to the group's P.O. box.

The KAWARTHA 99ers would like to thank those groups who exchange information and newsletters regarding the TEXAS INSTRUMENT HOME COMPUTER with us. We endeavour to recognize original authors and sources of articles of information which we reprint or make available to our membership.

The KAWARTHA 99ers USER GROUP are a non-profit group who welcome any individuals who have an interest in the TEXAS INSTRUMENT HOME COMPUTER.

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WANT ADS

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VIEWS AND REVIEWS

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SUPER EXTENDED BASIC

Review by Gene Bohot - Pomona Valley 99ers - Ontario, CA - Aug '87

At last, a major improvement to the TI-99/4A I can really use. SUPER EXTENDED BASIC is, for me, the best thing since DM1000 and the most used since I learned FunlWriter. If you have TI Extended Basic, you can send it to Triton for a $20 coupon when buying Super XB, and if you don't have it yet, don't bother.

I read a review called Super Extended Basic in a MICROpendium of 1985 that was apparently disk-based and needed CALL LOADs to use, but the ad in Triton's Spring catalog said it came in a module and supported up-down arrow in-line editing. Since the price was only $59.95 I decided to try it out.

WOW! It works just like TI Extended Basic and has been compatible with every program I have in "old xb" and some of the commands have been upgraded so you ca specify Line Length with LIST and can RES a segment of a program. You can also move the cursor immediately to the start or end of a line, or up or down a line in a statement, or tab left or right, in a statement, even erase everything up to or after the cursor.

But this is just the icing on the cake! Super Extended Basic also adds 33 new commands. I think the best are:

COPY, MOVE, or DELETE a segment of a program, CALL CATalog, CALL CLOCK, CALL CHIMES, CALL NEW or BYE, CALL QUITOFF, and CALL RUN(string variable program). It will also return the position of the ALPHA LOCK, CONTROL, FUNCTION, and SHIFT keys. Most of these commands can be accomplished with long programming techniques or assembly language aids, but now they are so much easier. Many times I have spent hours trying to do them in "old xb".

And even this is not all! Super Extended Basic also includes "DRAW 'N PLOT" from Quality 99 Software BUILT IN as fifteen assembly language subroutines you can use like TI-ARTIST or GRAPHX to draw pictures, then dump them to printer or disk. (You do need memory expansion to use DRAWNPLOT.)

Altogether, I feel this is the best value I have found for the TI-99/4A in a long time. The 24-page manual is laid out like the "old xb' manual and very easy to use. The only fault I have been able to think of with this module, is users with "old xb" cannot run a program written in Super Extended Basic since the new commands are not supported. Can you imagine your "old xb" when it encounters CALL ALL(42) to fill the screen with asterisks? But this is simular to trying to run an XB program in BASIC and not really a fault of Super Extended Basic.

If you write your own programs and have been looking for a way to make life a little easier, I highly recommend SUPER EXTENDED BASIC. Availiable from TRITON PRODUCTS COMPANY, PO Box 8123, San Francisco, CA 94128, Phone 800/227-6900.

NOTE: Super Extended Basic, in the widget, will not allow you to access modules in other slots. BJ

SIMPLY PUT....

by Fred and Amy Mackey - Pittsburgh Users Group, Pittsburgh, PA

How A Disk Drive Works

The disk is placed into the drive, the door is closed, and a spindle hub inside the diskette hole spins it around very quickly, at about 300 RPM. A magnetic read/write head moves toward the hub or out to the edge. The combination of spinning and head movements allows data to be placed on any part of the disk. Data is written on or read from the disk as it spins around inside the disk drive. The characters are stored as a series of magnetic pulses treated as zeroes or ones, called bits. Eight bits is a byte, one unit of data.

A double sided disk drive has two of everything and can read and writes to both sides of the disk without flipping the disk over. A double density disk drive can hold twice the usual number of bytes.

The data is read/written on concentric bands called tracks. Both sides of the disk jacket and the disk itself have an index hole. When the three are lined up, a beam of light passes through them and strikes a photo receptor which tells the drive it is the start of the track. Each track on a disk is broken into equal areas called sectors.

Magnetic Media Defects

All computers using external storage systems rely on magnetically created electrical impulses for their memory. Whether using cassette tapes, cartridges, floppy disks, hard disks, or other storage systems, these impulses are what make computers function. The physical devices that accept and hold the magnetic code are called the media. And all media require periodic attention.

If you've ever tried playing a "wrinkled" cassette tape on a cassette recorder, you know there is a problem. Besides producing a skip at the wrinkle, the tape will be weakened in that spot and will eventually break.

The same holds true with magnetic media used for computer storage. Both the media and the programs and data they contain may be damaged or destroyed by such things as heat, static, magnetism, polluted air, chemicals, dirty drive heads, grease or oil from fingertips, excessive humidity, excessive dryness, etc. Even brand new media is not exempt from these problems.

Older media is subject to more problems, such as the base material holding the oxide may turn brittle and become useless with age. The adhesive holding the oxide to the base may deteriorate. Or possibly the software may just wear out with use.

The magnetic media can easily be damaged through abuse or negligence. Therefore, it is important you be as careful as possible is your handling of it. This means running regular maintenance checks to keep your media in shape and doing such things as cleaning the heads of the disk drive and keeping your computer work area as clean as possible. And most important, get in the habit of making back-up disks for all your software.

The following are some rules you should follow to give your disks and cassette tapes the longest life span possible.

1. Always store your media in dustproof, non-metallic containers.
2. Avoid touching the magnetic surfaces of the disks or tapes.
3. When labeling a disk, write on the label before putting it on the disk. If you must write on the label after it is on the disk, use a soft-tipped marker, and make sure the ink is dry before putting it into the drive.
4. Store all media away from sources of heat, as well as from humidity. (This means the basement is not a good home for your computer!)
5. If you just walked across the room dragging your feet on the carpet, first discharge the static electricity by touching a grounded metallic object before you pick up a disk or touch your computer.

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JOYSTICKS:

WICO Trackball	$ 35	WICO "The BOSS"	$ 40
TAC 5 'The Clicker'	20	ProStick	28
ATARI Joystick Adapter	8	TI Joysticks Set	10

TI Speech Synthesizer c/w 32K memory installed	$100
TI Speech Synthesizer(standard)	50
Multiplan Spreadsheet	50
TI RF Modulator $ 8 — TI Keyboard	8
TI Console Power Supp. 8 — Swivel-Tilt mon. stand	25
Colored Printer Ribbons for GEMINI 10X Printers Red, Blue and Green(reel to reel style)	$ 3
ROLAND 1012 Dot Matrix Printer	400
GEMINI NX10 Dot Matrix Printer	~~400~~ 350
TI RS232 card $170 — MYARC or CORCOMP RS232 card	160
TI 32K card 160 — MYARC or CORCOMP 32K card	150
MYARC/CORCOMP DSDD Disk Controller card	225
CORCOMP Triple Tech card or Stand Alone RS232 unit	225
MYARC 256K/512K RamDisk	300/450
Memory chips to upgrade MYARC RamDisk (EA)	5

POWERHOUSE X10 Home Control Components:

This system can be controlled by your TI with the Corcomp Home Sentry Module and the Computer interface or operated by various other controllers available. Select only the components you wish and expand your system gradually. Be the first in your neighbourhood to automate your home!

These units are extremely easy to install; in most cases you simply plug them in and you're in control.

10X Powerhouse (serial interface to your TI)	$ 75
Corcomp's Home Sentry System(software interface)	70
Maxicontroller(16 station controller)	35
Minicontroller(8 station remote unit)	20
Timer Interface: Allows you to turn controlled appliances on/off at pre-set times or pseudorandomly(in security mode) even when you are away from home!	60
Radio Transmitter/Receiver unit	70
Extra Radio Transmitter for above	30
Thermostat Controller: Fools your furnace/conditioner into thinking its warmer/cooler than it really is!	60
10X 3 pin appliance module	35
10X 2 pin appliance module	30
3 pin Heavy Duty Appliance module(15 Amp)	35
3 pin Heavy Duty Appliance module(20 Amp)	40
Lamp module(dims/brightens as well as switches!)	25
10X Wall switch with dim control	25
10X Three way switch set	35
Extra(third) switch for three way set	8

Sales Tax and Shipping extra

25 OTTAWA ST.
ARNPRIOR ONTARIO K7S1W9

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MODULES: $10 (Texas Instruments)

Home Financial Decisions	Beginning Grammar	Reading Roundup
Measurement Formulas	Hunt the Wumpus	Multiplication
Early Learning Fun	Mind Challenger	Video Games 1
Laws of Arithmatic	Numeration II	Subtraction
Chisholm Trail	Equations	Division I
TI Invaders	Integers	Division
The Attack	Decimals	Percents
Zero Zap	Parsec	Addition

MODULES: $15 (Assorted)

Personal Record Keeping	Terminal Emulator	Pyramid Puzzlers
Household Budget Module	Reading Rainbows	Tax/Investment
Addtn & Subtraction 1	Multiplication 1	Numeration 1
Addtn & Subtraction 2	Multiplication 2	Numeration 2
Addtn & Subtraction 3	Reading Rainbows	Fractions 1
Reading Adventures	Reading Wonders	Fractions 2
Number Bowling	Reading Powers	Decimals 1
Space Journey	Picture Parts	Frog Jump
Adventure	Defender	Car Wars
Centipede	Amazing	Pacman
Munchman	Alpiner	Blasto

DISK-BASED SOFTWARE:

Tombstone City 2000	$ 8	Teach Yourself Basic	$ 8
Adventureland Database	8	Basketball Stat Keeper	8
Advanced Diagnostics	25	Night Mission	25
MG Mixed Game Package	25	DiskAssembler	25
High Gravity	20	Q99 SDump II	12
JoyPaint 99	40	Joypaint's Pal	12
Spad XIII	35	Tower(NotPolyoptics)	15
XBasher; XB Bug	20	GramPacker	12
Music Synthesizer	15	Volcano Fortress	12
Schedule Manager	20	Total Filer	30
Artist Instances(6)	50	PreScan it	15

Graphx Companion IV; Artist Companion II; Speak & Math; Programming Aids II; Programming Aids III each $8

CASSETTE SOFTWARE: (Inter-8/Cosmi/TI) $8

Escape From Balthazaar	Welcome to Hell	File Manager
Oldies But Goodies	Aztec Challenge	Password
Spider Invasion	Mad Race	Slinky

HORIZON RAMDISK PRODUCTS and KITS:

HRD Board(unpopulated)	$ 75	SSSD Parts Kit	$ 80
DSSD Parts Kit	160	8K chips(ea.)	6

Assembled 192K Horizon RamDisk with software & docs 260
Assembled 256K Horizon Ramdisk with Ver_Menu 320
*** Add $30 for inclusion of the HRD EPROM

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DataBioTics Console Writer or Corcomp's WriterEase:	$ 40
Corcomp's Load Interupt Switch	20
Genial Computerware's Horizon RamDisk EPROM	30
Miller Graphics Corcomp Disc Controller EPROM	50
Myarc's Foundation Ramdisk EPROM	95
Myarc's 80 Track Disk Controller EPROM	55
Navarone's cartridge expander(widget)	40
Microstuffer 64K Printer Buffer	100
AVATEX 1200 Semi-Smart Modem	150
GVC Gentek-1200 Hayes Compatible modem	200
Panasonic 1/2 height DSDD Disk Drives	150
Seagate 10 megabyte Hard Disk Drive(1 only)	350

BOOKS:

Creative Programming for Young Minds(4 vol. set)	$ 40
Orphan Survivors Handbook	30

Guide to the 99/4A; Home Energy Applications by Compute; Data and File Management; Introduction to Graphics; Games TIs Play; Best of 99er; Orphan's Chronicles; TI99-4A 24 Basic Programs each $ 15

Smart Programming Guide for Sprites; TI-99/4A Basic programs; Guide to Extended Basic Home Applications; Guide to TI-99/4A; 33 Programs for the 99/4A; Beginning Assembly Language on TI; Assembly Language Primer; Basic Programs for Small Computers; TI Games for Kids; Fundimentals of Assembly Language; Intro to Assembly Language; Shortcut Through Adventureland; Programs for the TI-99/4A; Basic Tricks for the 99/4A; Compute's TI Collection Vol. 1; Home Energy Applications; Computes 1st Book of TI Games; TE II Protocol each $ 12

Ertertainment Games in Basic; Hidden Powers of DiskFixer; TI-99/4A Trivia Database; The Toolkit Series(TI Edition); TI-99/4A Calc; Programs for the TI Computer each $ 10

51 Fun and Educational Programs; 57 Practical Programs and Games in Basic; 36 Programs for Home, School or Office; 101 Programming Tips and Tricks; TI Game Programs each $8

TI Writer Tips and Tricks 7

Assembly Language made Easy; Scott Adams Adventure Hints 5

CABLES:

RS232 Serial modem cable	$ 20	Parallel Printer cable	$ 34
RS232 Serial Y Cable	34	Dual Drive Logic cable	34
Dual Drive Power Cable	8	ATARI Joystick Adapter	8

Case and Power Supply for External drive(s) 50

'GENEVE' !!! MYARC's 9640 FAMILY COMPUTER	$779
AMIGA Color Monitor with cable and shipping	625

25 OTTAWA ST.
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"CONSOLE-ING THE ORPHAN"

RANDOM WORD GENERATOR

There are times, when trying to write an adventure game, you at a loss for unoque and appropiate names for either your monsters or your heros. My first try was by hand (or I should say, by head). But this took much too long...and besides, was no fun! So I wrote this program. I was rewarded with much more than I bargained for. Not only did I come up with acceptable names, but I also created an appropiate foreign language I could teach my characters. Here are some examples:

MONSTERS: DIHA-PIXE (a loveable rascal). An XORTI (a HUGH bat) The OZA PU, the DIWU KAVA and the ZULU QUYE, are strange vampire like creatures.

Of course, a GOTOAUWA, a MUWAROLO as well as the ZENIBUBA need no explanation.

OUR HEROS ARE: ATONO HAZODABO (a 6'6" adonis)
MEYUVI AADA (the clown)
The princess CINA EBULAVA
Her friend VIVI LUWAJADE
Emperor HUZO MAJEDESA
Doctor ZABERUHI ... and of course,
ANOGE SU DAH, the wizard.

"XUMC ACIYI AJAEI KOWEMIMA", shouted the evil Zenibuba. As they carried my friend away he pleaded, "JEYA, JEYA !" But the EFUCO (Cad) only sneered back," FALA PEPIJE TETUJUZU !"

Other not so obvious words are:
A "FUFECUPO" is a clown, an "AJOKI" is a pun. "CINE MEYALEDI" is a beautiful woman and "ODODO TUEA" is a delicious fruit from,as you know, the island of OZAPU

The prograa will print 30 rows of words in 3 columns. This can be changed in line 90 and If you don't want a printed copy, REM out lines 80,200,210,220 and 230. Also shorten line 280 to ... 280 END.

I hope you enjoy using this program as much much as I did writing it.

<*> <*> <*> <*> <*> <*> <*>

```
10 !----------------------------! !099
20 ! * RANDOM WORD GENERATOR * ! !092
30 !                            ! !004
40 ! --  by  Chick De Marti -- ! !219
50 !                            ! !004
60 REM RANDOMIZE !099
70 FOR I=1 TO 5 :: READ V(I):: NEXT I !194
80 OPEN #2:"PIO" !254
90 FOR WORD=1 TO 90 !100
100 R=INT(RND*10)+1 :: IF R<4 THEN GOSUB 290 :: P=2 !142
110 FOR PHRASE=1 TO P !008
120 IF R>5 THEN X=2 ELSE Y=1 !230
130 FOR Y=1 TO X !166
140 C=INT(RND*26)+65 :: IF C=65+C=69+C=73+C=85 THEN 140 !042
150 NAME$=NAME$&CHR$(C):: GOSUB 290 ! vowel !075
160 NEXT Y !239
170 GOSUB 290 ! add a vowel between phrases !045
180 NEXT PHRASE !089
190 CT=CT+1 :: PRINT NAME$,!189
200 ON CT GOTO 210,220,230 !013
210 PRINT #2:"Name #";WORD;" ";NAME$;:: GOTO 240 !212
220 PRINT #2:TAB(30);"Name #";WORD;" ";NAME$;:: GOTO 240 !030
230 PRINT #2:TAB(60);"Name #";WORD;" ";NAME$ :: CT=0 !124
240 NAME$="" ! prepare for new name !238
250 NEXT WORD :: P=3 :: NAME$=" " !203
260 PRINT : :"Press Q to quit";:: INPUT Q$ !125
270 IF Q$="Q" THEN 280 ELSE CALL CLEAR :: GOTO 90 !223
280 CLOSE #2 :: END !165
290 NAME$=NAME$&CHR$(V(INT(RND*5)+1))!149
300 RETURN !136
310 DATA 65,69,73,79,85
```

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BITS & PIECES

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Improved Video

by, Bob Lawson

In my travels through the Texas Instruments Manuals, specifically the TMS-9918,28,29 Manual, I read,"The load resistor (RL, pin 36 to ground) defines the sharpness of the edges on the video signals. A lower resistor value gives faster fall times and a sharper picture." Hmmm! I don't remember any 330 ohm resistors.

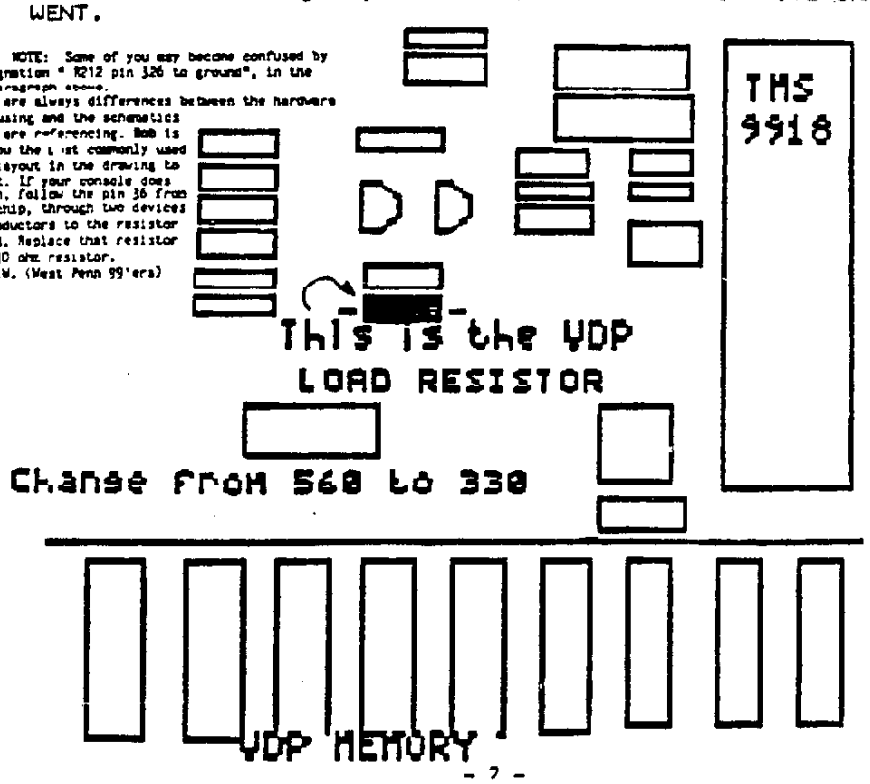
Well, I pulled out the "TI Console and Peripheral Manual, and sure enough, R212 pin 36 to ground was 560 ohms per the schematic. The next step was to check out a console, and well you guessed it, R212 was 560 ohms, not 330 ohms as recommended in the TI Manual!

Next step was to try some different value resistors, 330 ohms seems to be about the best common value resistor to use. I wonder why TI chose to use 560 ohms. I did find one old TI Manual which recommended 390 ohms (1979), but they're sometimes hard to find in 1/4 watt. This 30 cent change gives about a 40%, that's right, I said 40% improvement in the picture. The improvement is so good, you'll wonder where the WHITE SHADOWS WENT.

EDITOR'S NOTE: Some of you may become confused by the designation " R212 pin 326 to ground", in the second paragraph above.

There are always differences between the hardware you are using and the schematics that you are referencing. Bob is giving you the most commonly used console layout in the drawing to the right. If your console does not match, follow the pin 36 from the VDP chip, through two devices called inductors to the resistor to ground. Replace that resistor with a 330 ohm resistor.

J.F.W. (West Penn 99'ers)



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VIEWS AND REVIEWS

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JOYPAINT AND JOYPAINT PAL REVIEWED

by Jerry Steinberg, LA 99ers

Let me begin this review by telling you that I own just about every graphic program that has come out for the 99/4A, and I have come to a very interesting conclusion. I have been asked many times, "which graphic program do you think I should buy" ... I have arrived at the perfect answer.. You should buy all of them .. I have yet to see a graphics program that does not have some facility that the others lack ... If however somebody said to me, "I can only afford to buy three or four programs, then I would have to say, "Buy T.I. Artist, Graphx, and Joypaint 99 and Pal."

One big reason for my choice of these four is that the files from one can easily be used with the others, thereby giving you a flexibility not available from any single one. If money is not lacking I would also recommend Dave Rose's CSGD Program... But now to get down to the review of Joypaint in particular... In my estimation this one is just about the best.. It has most of the features all the others have with some added ones that are breathtakingly original.. Speaking broadly before I get into details let me say this; Joypaint is the easiest to use of all the others and has many features that none of the rest have.. For example, you have an assortment of pulldown windows that enable you to easily select with your joystick a myriad of functions, some of which are entirely new to graphic program users.

First of all.. How many times have you had to save a picture to disk so that when you add the next lines you can recall the old picture in case you make a mistake?.. You don't have to do that with Joypaint... If you make an error all you need do is use the undo function provided, and the last thing you did will be undone.. This of course is a miraculous time saver... But this is only one of the miracles this program affords.. Another is the "Smart Fill".. A fill that works better than any I have seen... A little ball skirts the perimeter of the area you wish to fill, and then proceeds to do so.. It wanders about and looks for unfilled areas so it can fill them... Also the fill target is not a cross that is so big you can't fit it into what you want to fill, but a sign that says "fill" with a dot below it one pixel large, so that you can fill the tiniest of areas.. No doubt about it.. This is the best fill I've seen.

Now lets talk about textures.. You have your choice of twenty six available and if you say that's not enough..O.K. There are provision for you to make your own in any quantity and save them to disk.. So much for textures.. But the real miracle of this program is the function called Spray Can.. This is another of these great choices which are made by choosing an icon just like in T.I. Artist. The spray can allows you to take any texture and spray paint with it... The leaves in the accompanying graphic were made using the Spray Can, as was the foliage.. Everything in this graphic with the exception of the girl was made with Joypaint 99.. The girl was borrowed from another graphics program. If you wanted for example to make a brick wall.. You would first make the wall with the boxmaker, and then use the fill using the brick texture and you would have it.. Simple as that.

When I give examples of what can be done, I am talking about both Joypaint 99 and the Joypaint Pal, since these two work hand in glove to perform many of these unheard of functions... Now to go on.. There are eight different brush shapes which can be used in your drawing .. This also gives you great facility in erasing small or large areas.We also have a directory feature which allows you to see the files on any disk without leaving the graphics program... You can also draw on an area larger than the screen you are viewing.. There is a function for moving the whole screen sideways and up and down. There is also a feature which allows you to magnify or reduce any area chosen of your picture.. Also, when you save a graphic is doesn't use much disk space because it only saves the picture information and not the blank areas. It will also do all the things the others will do such as Invert, Rotate, Flip Vertically or Horizontally, Copy, Move, Store on a clipboard, Circles, Ovals, Boxes, Etc.

As a few afterthoughts, we have printout in two sizes and two densities that works like a dream, and a delightful thing called Fatpixels, which is a zoom option which allows single pixel editing. The list price on these two disks is $39.95 for Joypaint 99 and $9.95 for the Joypaint pal.. The two disks together come to just under fifty bucks.. Worth it? .. A bargain as far as I'm concerned.. Right now it is necessary to have a Gemini 10x,15x,T.I. Impact, or any Epson compatible.. If you also have the Pal it will work with the GP100 by Axiom.. Other printers are being worked on at the present time... Use of Joypaint 99 requires the following equipment.. T.I. 99/4A, Joystick, Extended Basic, E/A, or Mini-Memory.